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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,354	10/07/2003	Issei Takemoto	501.43190X00	3850
20457	7590	09/13/2006	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			PERRY, ANTHONY T	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/679,354	<b>Applicant(s)</b> TAKEMOTO ET AL.	
	<b>Examiner</b> Anthony T. Perry	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 9-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8,21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment filed on 6/12/2006, has been entered and acknowledged by the Examiner.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (US 6,924,594) in view of Su (6,628,071).

Regarding claim 1, Ogura et al. teach a display device comprising a first substrate (810) having a display area (802) in which a plurality of pixels are arranged in a matrix array on a main surface of the first substrate and a first seal area formed at a periphery of the display area on the main surface of the first substrate (See Fig. 8B). Each of the plurality of pixels has a light emitting element and a pixel circuit (811) including an active element. A second substrate (804) is disposed to cover the main surface of the first substrate with a main surface of the second substrate, and has a second seal area at a part of the main surface of the second substrate opposite to the first seal area of the first substrate. The first substrate and the second substrate are stuck together with a seal material (805) interposed between the first seal area and the second seal area. The first substrate has a cathode film (817) that is commonly utilized for the respective light emitting elements of the plurality of pixels and covers the second substrate side of the display

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area (802). A driving circuit (803) that drives the plurality of pixels is arranged outside of the display area (802) on the main surface of the first substrate. The cathode film (817) also covers the driving circuit (803).

Ogura et al. do not specifically teach the second substrate having a recessed portion. However, the second substrate having such a recessed portion is well known in the art (for example see pages 2-3 of the Applicant's specification). Su teaches the second substrate of a similar display device can be made to have such a recess portion within the seal area of the second substrate in order to accommodate a moisture absorbent layer such that the thickness of the display device can be reduced (see col. 2, lines 37-40). Su shows the moisture absorbent layer substantially covering all of the display area. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a recess in the second substrate with a moisture absorbent layer provided therein in order to reduce the thickness of the display device.

Claims 2-8 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (US 6,924,594) in view of Su (6,628,071), as applied to claim 1, above, and further in view of Yamada et al. (US 6,833,668).

Regarding claim 21, the combination of Ogura et al. and Su does not specifically teach that the cathode film (817) extending beyond the display area (802) and covering the driving circuit (803) has a light shielding property.

However, Yamada teaches that by using a cathode made of metal, the cathode can serve as a light shielding layer for blocking ultraviolet irradiation, used in curing the sealing material that holds the two substrates together, preventing the irradiation from reaching the organic EL layer and the driver circuits of the display device (see col. 4, lines 51-67). It would have been

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obvious to one of ordinary skill in the art at the time the invention was made to form the cathode film of the Ogura reference of a light-shielding material in order to protect the light emitting element from UV light used in the curing of the sealing material of the display device.

Regarding claim 2, Yamada teaches the light-shielding cathode being formed of silver (col. 15, lines 21-26).

Same reason for combination given in the rejection of claim 21 applies.

Regarding claims 4 and 6, Ogura teaches that the light-emitting element has a light-emitting layer formed of an organic electroluminescent material, Alq<sub>3</sub> (col. 16, lines 38-39). Alq<sub>3</sub> is an organic semiconductor.

Regarding claims 5 and 7, Ogura teaches that the first seal area surrounds the display region (802) and that the driver circuit area (803) does not extend outside the first seal area on the main surface of the first substrate (810) (see Fig. 8B).

Regarding claim 8, Su teaches that the second seal area surrounds the recessed portion formed in the main surface of the second substrate (for example, see Fig. 2).

Same reason for combination given in the rejection of claim 1 applies.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (US 6,924,594) in view of Su (6,628,071) in view of Yamada et al. (US 6,833,668) as applied to claim 21, above, and further in view of Yamazaki et al. (US 6,952,023).

Regarding claim 3, Ogura, Su, and Yamada fail to specifically teach the light-shielding cathode having a laminated structure formed by stacking two laminated films. However, Yamazaki teaches a light-shielding cathode layer formed by laminating two conductive films, such as an aluminum film and a copper film (col. 31, lines 6-10). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for

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the intended use as a matter of obvious design choice. Thus, it would have been obvious to one having ordinary skills in the art at the time the invention was made to have formed the light-shielding cathode as a laminated structure formed by stacking an aluminum conductive layer and a copper conductive layer, since the selection of known materials for a known purpose is within the skill of the art.

### ***Response to Arguments***

Applicant's arguments filed 6/12/06 have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Examiner agrees that the Ogura et al. reference discloses a moisture absorption film (820) provided on the first substrate, and that the second substrate (804) is shown as a planar substrate without a recess. However, the Examiner notes that the moisture absorption film (820) of the Ogura reference is covered with a passivation film (821). Therefor there is no absorption

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film for absorbing moisture located in the space (807) defined by the second substrate (804) and the sealing material (805). One of ordinary skill in the art would have seen the advantage of having a moisture absorbent layer located on the second substrate in order to absorb moisture within the space (807) so that condensation did not build up on the display side substrate (810). Furthermore, it is noted that second substrates (encapsulating substrates) having recessed portions as taught by Su are often preferred over the planar substrates for encapsulation of OLEDs, since they include a means for correctly and uniformly spacing the main portion of the substrate from the OLED elements formed on the first substrates. Simply providing an adhesive as the sealing means and the spacing means does not allow the same precision and uniformity provided by recessed substrates. Furthermore, it is well known in the art to include the moisture absorbent layer on the main surface of the recessed substrates.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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### Contact Information

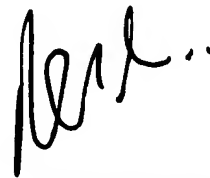
Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is (571) 272-2459. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-24597. **The fax phone number for this Group is (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 2879  
September 5, 2006



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